REMARKS

I. Examiner Interview

Applicant would like to thank the Examiner for conducting the in-person interview on January 11, 2007. Applicant and the Examiner discussed the outstanding rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a), and discussed the *Carey* reference cited in each of the rejections. Additionally, Applicant provided the Examiner with proposed amendments to claims 44-46 as substantially as set forth herein. For substantially the same reasons as set forth herein, Applicant discussed with the Examiner that *Carey* does not teach each and every element of the claims. The Examiner wanted formal amendments to the claims to be submitted before considering the proposed amendments to the claims. Since the Examiner wanted to review formal amendments, no final agreement was reached.

II. Background

The present Amendment is in response to the Office Action mailed October 20, 2006. Since claims 1-43 have been previously cancelled, claims 44-54 were pending in the application for consideration at the time of the mailing of the Office Action. Claims 44-46, 48-49, and 53 are currently amended, and new claims 55-72 are currently added. Thus, claims 44-72 are currently pending for consideration.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. In addition, Applicant requests that the Examiner carefully review any references discussed below to ensure that Applicant's understanding and discussion of the references, if any, is consistent with the Examiner's understanding.

III. Proposed Claim Amendments

Please amend the claims in the manner indicated above, where an underline represents new text, and strikeouts are used to indicate deleted text. The amendments to claims 44-46, 48-49, and 53 have been made to place the claims in condition for allowance, and are fully supported by the application as originally filed. More particularly, the amendments to claims 44-46 and 48-49 are fully supported by direct and inherent teachings included in the specification of the published application (PG-PUB 2003/0082564) at paragraphs [0001], [0012], [0026], [0027], [0036], [0059], [0060], [0063], [0081], [0118], [0128-0133], and the Examples.

New claims 55-70 are fully supported by the application as originally filed. More particularly, the specification of the published application (PG-PUB 2003/0082564) fully supports new claims 55-57 through the specific and inherent teachings of paragraphs [0013-0014], [0025-0029], [0031], [0032-0036], [0038-0039], [0059-0063], [0110], [0168], [0180], and [0190-0194], the original claims, and the Examples.

New claim 58 is fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teachings of paragraphs [0029-0039] and [0154-0167].

New claims 59-61 are fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teaching of paragraphs [0033-0036].

New claim 62 is fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teachings of paragraphs [0027] and [0058-0063].

New claim 63 is fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teachings of paragraphs [0016] and [0125].

New claim 64 is fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teachings of paragraph [0190].

New claims 65-66 are fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teachings of paragraphs [0042-0054].

New claims 67-69 are fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teachings of paragraphs [0031-0033], [0038-0039], and [0110].

New claim 70 is fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teachings of paragraphs [0013-0014].

New claims 71-72 are fully supported by the specification of the published application (PG-PUB 2003/0082564) through the specific and inherent teachings of paragraphs [0126-0141].

Applicant respectfully submits that the amendments to the claims do not introduce new matter and entry thereof is respectfully requested.

IV. Objections

The Office Action objected to claim 48 under 37 CFR § 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. In response thereto, Applicant amended claim 48 to recite that the compound is a "synthetic chemical compound." It is believed that a "synthetic chemical compound" is narrower in scope than a compound. As such, Applicant respectfully requests withdrawal of this objection.

V. Rejection on the Merits

A. Rejections Under 35 U.S.C. § 112, First Paragraph

The Office Action rejects claims 44-54 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Specifically, the Office Action asserts that only "libraries of compounds" and "drug libraries" are disclosed in the specification, and that there is no support for a "library of substances." Accordingly, Applicant has herein amended independent claims 44-46 to recite a "library of compounds," which the Office Action acknowledges is supported by the specification of the instant patent application.

Further, the Office Action asserts that there is no disclosure of the following: (a) a method step wherein a compound of a library of compounds is incubated with the cells of the invention; or (b) a method step of screening at least one compound of library of compounds for a biological effect or function (see, Office Action, page 3). However, Applicant respectfully asserts that the written description is satisfied when the patent specification, including any originally filed claims, "describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention." *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 U.S.P.Q.2d (BNA) 1429, 1438; *see also* M.P.E.P. § 2163(I). Moreover, support for the claim limitations may be express, implied, or

inherent. M.P.E.P. § 2163(I)(B). In this regard, Applicants note that the written description does not have an *in haec verba* requirement. M.P.E.P. § 2163(I)(B). Accordingly, the Office Action may not reject claims based on the written description requirement merely because the claims fail to use precise language from the specification. Instead, the specification and claims should be fully examined and reviewed from the standpoint of one of skill in the art at the time the application was filed. M.P.E.P. § 2163(II)(A)(2). Upon such a review, Applicant submits that the claims, as amended, are clearly supported by the specification as originally filed **as understood by one of ordinary skill in the art**.

Applicant respectfully asserts that the instant patent application teaches the presently claimed method steps throughout the specification, and such method steps are inherent from the descriptions and examples provided therein. More particularly, the claim elements "**incubating the one or more cells with at least one compound of the library of compounds**," and "**screening the library of compounds for biological function or biological effect on the subunit in the one or more cells**" as recited in claims 44-46 are supported by the specification of the published application (PG-PUB 2003/0082564) at the specific and inherent teachings of paragraphs [0001], [0013-0014], [0025-0027], [0044-0054], [0059-0063], [0110], [0126-0141], [0180], and [0190-0194], and the Examples. Applicant notes, however, that the above-referenced citations are merely examples of support for the amended claims, and additional support can be found, expressly, and/or inherently in other portions of the application as originally filed.

Since Applicant has amended independent claims 44-46 and provided citations within the specification that clearly teach the foregoing claim limitations, Applicant submits claims 44-46 comply with the written description requirement and withdrawal of the rejection under 35 U.S.C. § 112, first paragraph, is respectfully requested.

Claims 47-54 were only rejected under 35 U.S.C. § 112, first paragraph, as depending from claims 44, 45, or 46. Accordingly, for the same reasons as discussed above with regard to claims 44, 45, and 46, Applicant respectfully requests withdrawal of the rejection of claims 47-54 under 35 U.S.C. § 112, first paragraph.

B. Rejections Under 35 U.S.C. § 112, Second Paragraph

The Office Action rejects claims 44-54 under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which applicant regards as

the invention. More particularly, the Office Action states that the metes and bounds of the claimed invention are ambiguous by reciting "unknown influences." As such, Applicant has amended the independent claims 44-46 to remove the limitation "unknown influences" from the claims.

Additionally, the Office Action asserts that "the group of GFP's" in line 2 of claim 53 does not have proper antecedent basis. Applicant has amended claim 53 to provide the proper antecedent basis.

Since Applicant has amended independent claims 44-46 and claim 53 to remove the ambiguous term and to provide the proper antecedent basis, Applicant respectfully requests withdrawal of the rejection to claims 44-46 and 53 under 35 U.S.C. § 112, second paragraph.

Claims 47-52 and 54 were only rejected under 35 U.S.C. § 112, second paragraph, for depending from claims 44, 45, or 46. Accordingly, for the same reasons as discussed above with regard to claims 44-46, Applicant respectfully requests withdrawal of the rejection of claims 47-52 and 54 under 35 U.S.C. § 112, second paragraph.

C. Rejections Under 35 U.S.C. § 102

The Office Action rejects claims 44-52 under 35 U.S.C. § 102(b) as being anticipated by *Carey et al.* (J. Cell Biol., June 1996). Applicant respectfully traverses this rejection. In support of the traversal, submitted concurrently herewith is a Declaration of Chris M. Ireland, Ph.D., under 37 C.F.R. § 1.132, which is incorporated herein by specific reference.

The Office Action asserts that *Carey* teaches a library of compounds by "any and all substances mentioned in the Materials and Methods section of pages 986-987" (see, Office Action, page 5). Applicant respectfully objects to such an overly broad interpretation of "library of compounds," as recited in claims 44-46. As described in the Declaration of Chris M. Ireland,

> a "**library of compounds**" is **a term of art** that is well known to those of ordinary skill in the art of screening compounds. A skilled artisan in the art of screening compounds would understand a "library of compounds" be a **collection of compounds that are either pure or present at a known concentration, and arranged so that each compound can be selected from the collection of compounds for use in an experiment either alone or in combination with other compounds of the library**. Also, a skilled artisan would understand that a library of compounds is a collection of compounds **assembled for the purpose of testing the compounds to determine suitability for a particular purpose, or to detect wanted or unwanted attributes of the compounds**.

(Declaration of Chris M. Ireland, Paragraph 10.)

In view of the foregoing definition, the "any and all substances mentioned in the Materials and Methods section of pages 986-987 [of *Carey*]," as cited in the Office Action, do **not** constitute a "library of compounds," as recited in claims 44-46, because only dexamethasone is described to be present at a "known concentration" for the purpose of "determining suitability for a particular purpose," or to "detect wanted or unwanted attributes," and dexamethasone alone does **not** constitute a "library of compounds." Furthermore, while other compounds may be listed in *Carey*, such compounds are **not** present at a "known concentration" for the purpose of "determining suitability for a particular purpose", or to "detect wanted or unwanted attributes." Thus, Applicant submits that *Carey* does not teach or suggest a "**library of compounds**," as recited in claims 44-46. In further support thereof, see Declaration of Chris M. Ireland, Paragraph 16.

The Office Action also asserts that *Carey* teaches a library of compounds by stating, "at a minimum, a library of substances taught by *Carey et al* comprises dexamethasone, phenol red, and compounds contained in serum." (Office Action, pages 5-6.) Again, Applicant respectfully objects to such an overly broad interpretation of "library of compounds." The Declaration of Chris M. Ireland states that the "*Carey* reference does **not** disclose a 'library of compounds' or a group of compounds that could be construed as a 'library of compounds.'" (Declaration of Chris M. Ireland, Paragraph 15.) Furthermore, the Declaration clearly supports that one skilled in the art of screening compounds would **not** consider dexamethasone, phenol red, and compounds contained in serum to be a "library of compounds," as recited in claims 44-46. Specifically, in light of the above definition of "library of compounds," the Declaration states that:

> [a] skilled artisan would not consider dexamethasone, phenol red, serum, and charcoal-stripped serum to be a library of compounds because only dexamethasone could be construed to be a compound that is either pure or present at a known concentration. Also, *Carey* does not teach or suggest that phenol red is available for being selected in the absence of cell culture media, and thereby phenol red is not taught or suggested to be present in a pure state or in a specific, known concentration in a specific solvent that is compatible with the environment in which the compound will be used, wherein the solvent is substantially devoid of any contaminating compounds or substances because the other compounds contained in media would be considered to be contaminants. Additionally, neither serum nor charcoal-stripped serum is a pure compound, and the compounds contained therein are not all present at known concentrations.

(Declaration of Chris M. Ireland, Paragraph 17.)

In view of the foregoing, Applicant submits that "dexamethasone, phenol red, and compounds contained in serum" as disclosed in *Carey* do **not** constitute a "**library of compounds**," as recited in claims 44-46.

The Office Action further asserts that *Carey* teaches "screening a library of compounds" for an effect by testing dexamethasone and charcoal-stripped serum on the heterologous fusion protein (GR-GFP) comprising a glucocorticoid receptor (GR) coupled to green fluorescent protein (GFP). Applicant respectfully objects to such an overly broad interpretation of "screening a library of compounds," as recited in claims 44-46. As set forth in the Declaration of Chris M. Ireland,

> "screening a library of compounds" is a **term of art** for an experimental process that is well known to those of ordinary skill in the art of screening compounds. A skilled artisan in the art of screening compounds would understand "screening a library of compounds" to be a process to **systematically examine, test, or evaluate the compounds of the library of compounds in order to determine suitability for a particular purpose, or to detect wanted or unwanted attributes of the compounds**. Additionally, a skilled artisan in the art of screening compounds would understand that "screening a library of compounds" would include a process to **systematically examine, test, or evaluate whether or not a known concentration of a compound or a combination of compounds of the library of compounds is biologically active, and so that the biological activity can be correctly attributed to a known concentration of the compound**.

(Declaration of Chris M. Ireland, Paragraph 13.)

In view of the foregoing definition, applicant submits that *Carey* does **not** and cannot disclose or suggest "**screening a library of compounds,**" as recited in claims 44-46, because *Carey* does not disclose or suggest a "library of compounds." Furthermore, as set forth in the Declaration "only dexamethasone could be construed to be in a pure state or at a known concentration that is included in a process to be systematically tested to determine suitability for a particular purpose, or to detect wanted or unwanted attributes, and **testing dexamethasone alone does not constitute 'screening a library of compounds.'**" (Declaration of Chris M. Ireland, Paragraph 19.) Thus, Applicant submits *Carey* does not teach or suggest "**screening a library of compounds,**" as recited in claims 44-46.

Additionally, Applicant respectfully asserts that *Carey* does not disclose or suggest "screening the library of compounds **for biological function or biological effect on the subunit**

in the one or more cells," as recited in claims 44-46. In part, this is because none of the alleged compounds of the alleged library of compounds of *Carey* are screened for "biological function or biological effect on the subunit" of the component. Also, the affect of dexamethasone on GR, which the Office Action construed to be a subunit of a component, was well known in the art as evidenced by *Carey* stating that "the GR-GFP fusion protein translocates into the nucleus upon exposure to [dexamethasone] with kinetics similar to those published for the glucocorticoid receptor." (Carey, page 986, first column.) As such, dexamethasone is **not** screened in *Carey* for "biological function or biological effect on the subunit" **because the effect was already known**. In fact, *Carey* used dexamethasone on the GR-GFP only because the effect on GR was well known. In any event, no other alleged compounds of the alleged library of compounds in *Carey* were screened for "**biological function or biological effect on the subunit**." Thus, *Carey* does **not** disclose or "screening the library of compounds **for biological function or biological effect on the subunit** in the one or more cells," as recited in claims 44-46.

Since *Carey* does not teach or suggest each and every element of the claimed invention, Applicant submits that claims 44-46 are not anticipated by *Carey*. Claims 47-52 depend from independent claims 44, 45, or 46 and thus incorporate the limitations thereof. As such, applicant submits that claims 47-52 are distinguished over the Carey reference for at least the same reasons as discussed above with regard to claims 44-46. Accordingly, Applicant respectfully requests withdrawal of the rejection to claims 44-52 under 35 U.S.C. § 102(b).

D. Rejections Under 35 U.S.C. § 103

The Office Action rejects claims 53-54 under 35 U.S.C. § 103(a) as being unpatentable over *Carey et al.* (J. Cell Biol., June 1996) as applied to claims 44-52 above, and further in view of *Cormack at al.* (Gene, 1996). Applicant respectfully traverses the rejection of claims 53-54 under 35 U.S.C. § 103(a) because a *prima facie* case of obviousness has not been established.

According to the applicable law, a claimed invention is unpatentable for obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (2005); *Graham v. John Deere Co.*, 383 U.S. 1, 14 (1966); MPEP 2142. Obviousness is a legal question based on underlying factual determinations including: (1) the scope and content of the prior art, including what that prior art teaches explicitly and inherently; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention

and the prior art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17-18; *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999). It is the initial burden of the PTO to demonstrate a *prima facie* case of obviousness, which requires the PTO to show that the relied upon references *teach or suggest* all of the limitations of the claims. MPEP 2142 (emphasis added).

According to MPEP section 2143:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." (emphasis added).

The Office Action cites *Cormack* because it teaches "mutations of GFP, including the F64L and S65T." (Final Office Action, page 6.) However, *Cormack* does not cure the deficiencies recited above with respect to *Carey*.

Claims 53-54 depend from claims 44-46, and thus incorporate the limitations thereof. As such, Applicant respectfully asserts the combination of *Carey* and *Cormack* does not teach or suggest each and every element of the claimed invention. Specifically, the combination of *Carey* and *Cormack* does not teach or suggest the elements of claims 44-46 as recited above that are not taught or suggested by *Carey* alone, and thereby the combination of *Carey* and *Cormack* does not teach or suggest the elements recited in claims 53-54.

Since the combination of *Carey* and *Cormack* does not teach or suggest each and every element of claims 53-54, a *prima facie* case of obviousness has not been established. Accordingly, Applicant respectfully requests withdrawal of the rejection to claims 53-54 under 35 U.S.C. § 103(a).

VI. New Claims

Applicant respectfully submits that new claims 55-70 are not anticipated or obvious in view of the art cited in the Office Action, and are allowable for at least the same reasons claims 44-52 are allowable. In part, this is because neither *Carey* nor the combination of *Carey* and

Cormack teaches or suggests a "library of compounds" or "screening the library of compounds" as discussed above.

The Office Action of December 1, 2005 asserts that *Carey* teaches "the measurement of translocation was done by determining a 'variation' of GR-GFP location (either cytoplasmic or nucleic) and quantitated by recording microscopic images followed by analysis of the images with Cosmos software (see section entitled 'Microscopy', second column, page 986)." (Emphasis added). Applicant respectfully objects to such a characterization of *Carey* because the "Microscopy" section makes no such teaching. Rather, this citation in *Carey* actually teaches "[f]or quantitation of **nuclear/cytoplasmic ratios** . . . [d]ata were collected and quantitated using Cosmos software" and "[f]or each set of conditions, the intensities of pixels were summed **within the individual nuclei and cytosols** of at least 10 cells." (*Carey*, page 986, second column to page 987, first column, emphasis added). As such, *Carey* only uses Cosmos software to determine the ratio of pixels in the nuclei and cytosols of individual cells, and *Carey* does **not** teach that Cosmos software was used in a **measurement of translocation by determining a "variation" of GR-GFP location**, as asserted in the Office Action. Accordingly, *Carey* does not teach or suggest "**computing a variation between the first distribution and the second distribution by processing the measured light of the first distribution and the second distribution**," as recited in claim 55, "**computing a variation in distribution of said at least a subunit of the component in the one or more cells from the first time point to the second time point**," as recited in claim 56, and/or "**computing a variation of said at least a subunit of the component from the first distribution to the second distribution**," as recited in claim 57. Thus, Applicant submits *Carey* does not teach or suggest "computing a variation," as recited in claims 55-57.

Additionally, Applicant respectfully submits that neither *Carey* nor *Cormack* teaches or suggests "**screening a plurality of compounds of the library of compounds** to determine whether said at least one compound **modulates the intracellular translocation of said at least a subunit** of the component in the one or more cells," as recited in each of claims 55-57. While the Office Action asserts that *Carey* teaches a library of compounds, nothing in *Carey* indicates that a plurality of the alleged compounds of the alleged library of compounds are screened to "determine whether said at least one compound modulates the intracellular translocation of said at least a subunit of the component." Thus, neither *Carey* nor *Cormack* teach or suggest each and every claim limitation in independent claims 55-57.

In view of the foregoing, applicant submits that claims 55-57 and claims 58-72 which depend therefrom are allowable over the cited prior art.

SUMMARY

Applicant believes the amendments to the claims have placed claims 44-54 in allowable form. Additionally, Applicant believes new claims 55-72 are allowable. Thus, Applicant respectfully requests reconsideration of the application and allowance of the presently pending claims.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 20th day of March, 2007.

Respectfully submitted,

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